

METHOD OF MAKING A PATTERNED MAGNETIC RECORDING HEAD

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WHICH IS A CON OF 09/255,762 02/13/1999 PAT 6,269,533*

Field of the Invention

This invention relates generally to magnetic recording heads and more particularly to a method of making thin-film magnetic heads for imprinting time based servo patterns on a magnetic media.

Background of the Invention

While a variety of data storage mediums are available, magnetic tape remains a preferred forum for economically storing large amounts of data. In order to facilitate the efficient use of this media, magnetic tape will have a plurality of data tracks extending in a transducing direction of the tape. Once data is recorded onto the tape, one or more data read heads will read the data from those tracks as the tape advances, in the transducing direction, over the read head. It is generally not feasible to provide a separate read head for each data track, therefore, the read head(s) must move across the width of the tape (in a translating direction), and center themselves over individual data tracks. This translational movement must occur rapidly and accurately.

In order to facilitate the controlled movement of a read head across the width of the media, a servo control system is generally implemented. The servo control system consists of a dedicated servo track embedded in the magnetic media and a corresponding servo read head which correlates the movement of the data read heads.

The servo track contains data, which when read by the servo read head is indicative of the relative position of the servo read head with respect to the magnetic media in a translating direction. In one type of traditional arrangement, the servo track was divided in half. Data was recorded in each half track, at different frequencies. The servo read head was approximately as wide as the width of a single half track. Therefore, the servo read head could determine its relative position by moving in a translating direction across the two half tracks. The relative strength of a particular frequency of data would indicate how much of the servo read head was located within that particular half track.

While the half track servo system is operable, it is better suited to magnetic media where there is no contact between the storage medium and the read head. In the case of magnetic tape,